



Application Opportunity

The A4161 Castle Street, which surrounds the famous Cardiff Castle in Wales, is a high volume, fast flowing single carriageway originally laid on concrete. The surface layer needed replacing due to showing signs of fatigue. As the base layer of the road was in good condition, there was an opportunity for SteelPhalt to provide an overlay strong enough and durable enough to cover the concrete layer and handle the high volume of traffic.

Recommended Product

10mm SteelFlex, made with 95% recycled steel slag aggregate and a high performing PMB, was recommended for this project. It has a high resistance to reflective cracking which makes it ideal for concrete overlays. SteelFlex is also durable under extreme stress and helps to reduce the noise of traffic.

Results and Benefits

In 2022, 1000 tonnes of material was installed and is still performing to high-performance standards as expected. The additional benefit of using SteelFlex has lowered the carbon footprint compared to industry average alternatives due to using recycled steel slag aggregate. The total carbon saved for this scheme was 20,000 Kg CO₂e.

Carbon Data

Product	Carbon Footprint Kg CO ₂ e/tonne*	Average Surface Course Kg CO ₂ e/tonne*	Carbon Benefit Kg CO ₂ e/tonne	Carbon Benefit %
SteelFlex	37.7	52	14.3	27.5%

*Value based on SteelPhalt verified EPD tool

